

DWM COPELAND

S-Series Semi-Hermetic Compressors with Discharge Temperature Control (DTC) for R22 Low Temperature Refrigeration Applications

Low Temperature Applications with R22

R22 refrigerant may exhibit unacceptably high compressor discharge temperatures when used in low temperature applications, leading to a limitation of the compressor operating envelope. This can be efficiently overcome by injecting liquid into the compressor suction line.

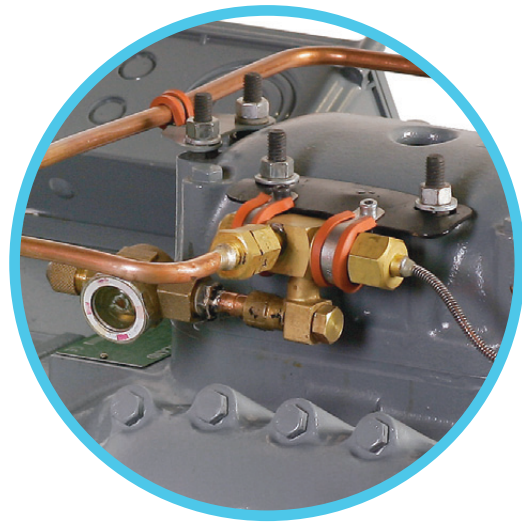
The Discharge Temperature Control system (DTC) is a mechanical liquid injection method that has been successfully applied to DWM Copeland™ compressors. A temperature bulb senses compressor discharge temperature and allows the injection valve to open.



The subsequent liquid injection into the compressor suction line widens the operating envelope to allow evaporating temperatures from -5°C down to -45°C . Due to its simple design and no need for an external power supply, DTC is an economical and reliable addition to the DWM Copeland™ semi-hermetic compressor range.

S-Series Compressors with DTC

Discharge Temperature Control is applied to all D3S, D4S and D6S low temperature models, spanning a range from 7.5 to 40 hp. DWM Copeland™ S-Series compressors for R22 are available with mineral or ester oil. Using ester oil models brings advantages for later conversion to CFC-free refrigerants.

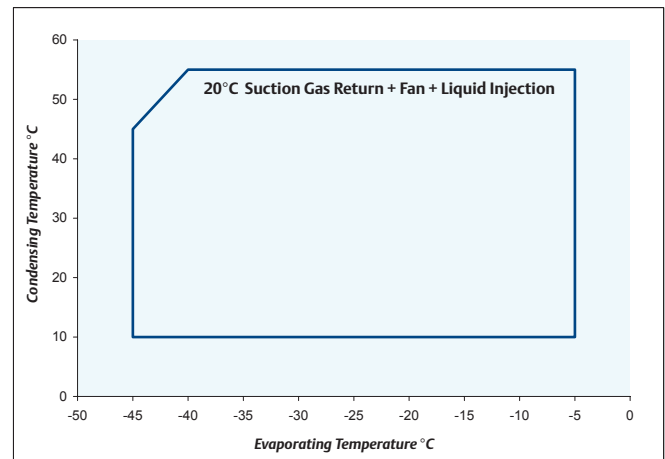


D6S Compressor with DTC Valve

Benefits

- Injection with DTC valve enables low evaporating temperatures for the D3S, D4S and D6S DWM Copeland™ compressors using R22
- Low condensing capabilities down to 10°C for optimum seasonal energy efficiency
- Self-contained mechanical injection system
- Simple, economical and reliable solution
- Easy to mount

Low Temperature R22 Operating Envelope for D3S, D4S and D6S Compressors



S-Series D3S, D4S and D6S Compressors with DTC for Low Temperature Applications

Model	Nominal Horsepower hp	Cooling Capacity	Displacement m ³ /h	Oil Quantity	Weight kg	Motor Versions
		kW ⁽¹⁾		Liters		
D3SC-750/-75X	7.5	4.9	38	3.6	159	AMW AWD EWK
D3SS-1000/-100X	10	6.7	50	3.6	163	
D4SL-1500/-150X	15	9.7	71	3.6	186	
D4ST-2000/-200X	20	11.1	85	4.0	198	
D6SL-2500/-250X	25	13.7	106	4.3	216	
D6ST-3200/-320X	32	16.0	127	7.4	252	
D6SU-4000/-400X	40	21.2	152	7.4	265	

⁽¹⁾ R22 Low temperature (LT): Evaporating -35°C, Condensing 40°C, Suction gas return 20°C, Subcooling 0K

For more details, see www.emersonclimate.eu

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